

Appendix L

Record Review

Comments on Draft Final Report
For The Expanded Site Investigation Phase II
Former Atlas Missile Site No. 7
Vernon, Texas

Reviewer: Dave Jones, ARMY/FUDS Section Tulsa District, U.S. Army Corps of Engineers
Respondent:

Page: 1

1. Respondent concurs (C), Does not Concur (D), or takes Exception (E).
2. Commentor Agrees (A) with response, or Does not Agree (D) with response.

Comment #	Section/Page	Paragraph/ Line	Comment	C, D, E ¹	Response	A or D ²
1	GENERAL		Proofread, spell check, word search for consistency, etc. entire document carefully.	C	Corrected	
2	2.3.1 / 7	1st ¶ / line 4	Reword "AMS sites were declared to be excessive".	E	Reference taken from SOW.	
3	2.4 / 10	3rd ¶ / line 3	Were water levels measured to the nearest 1/10th inch or foot?	C	Corrected to 1/100 th foot	
4	Figure 2	Page 11	Label as Figure 2. Add groundwater flow direction arrow. Change MW-05(?) to MW-08. Increase font size for well names, water levels and contour intervals. Will this figure be in color for final report?	C	Corrections and arrows added. Figure will be in color.	
5	3.1	General	Number subsections as done in the rest of the report instead of using bold titles alone.	C	Subsections added.	
6	3.1	General	Add a section to briefly discuss the 1999 demolition(s).	E	Only details of demolition given in MK Expanded Site Investigation report. Information in our report reflects what was reported in MKs report.	
7	3.1	General	During discussions of previous investigations, give specific numbers of how many samples were taken.	C	Tables were added to reflect numbers of samples collected for the MK investigations. Data for previous investigations N/A.	
8	3.1 / 12	2nd ¶ / line 2	Reword to reflect "... to determine if there was a release or potential of hazardous..."	C	Corrected	
9	3.1 / 12	Last ¶	For the 1995 USACE investigation, what are the "background ranges"? Were screening levels used to help determine that "no further action" was warranted?	E	Corrected text to reflect statement was taken from the Jan 2001 MK report and raw data was not provided to DEMS.	
10	3.1 / 13	2nd ¶	See previous comment; how was the TRPH explained?	C	See response to comment no. 17	
11	3.1	General	At the end of section 3.0, after discussions on past sampling results, state that complete sample results are on record and available for review at the Tulsa District COE.	C	Text was added to reflect referenced reports were available for review at the USACE, Tulsa District Office.	
12	3.1	General	On the detailed site map (APP J), which would be better in color, show all past borehole, monitoring wells, and sample locations.	E	Not all information was provided to DEMS.	
13	4.0 / 16	2nd bullet	Change "analyzed" to analysis and identify what metals were tested for..	C	Corrected	
14	Figure 3	Page 17	From the legend, it is somewhat unclear if all the sampling points, boreholes, and wells were installed by MK 2000.	C	Corrected	
15	4.1.1 / 21	1st ¶	Explain better that each sample came from a 10 square foot area block off of the grid system.	C	Added text to reflect.	
16	4.1.2 / 21	1st ¶	See previous comment. It may be clearer to refer to each sampling area as a block not a grid. (Figures 3.1, 2, 3.1A, 2B, and 3C could be edited to also reflect this).	E	All reference to sample locations, in the approved work plan, has been grids, to stay consistent it should stay grids for this report. On future work plans an adjustment can be made.	
17	4.1.4 / 25	2nd ¶	In the future, the water level should be measured and recorded each time stabilization parameters are recorded. Also, the flow rate needs to be recorded at each reading as well as the total volume of water removed prior to sampling.	C	Will note for future reference.	

Comment #	Section/Page	Paragraph/ Line	Comment	C, D, E ¹	Response	A or D ²
18	4.1.4	General	An additional paragraph needs to be added to this section discussing: Were these dedicated pumps that were left in each well for future use? Was there one pump used per well or was one pump moved from well to well? If one pump was moved from well to well, what were the decon procedures used?	C	Third paragraph describes the setting of each pump. Additional text was added to discuss decon of pumps.	
19	4.1.5 / 25		Reference that survey coordinates are located on the map in App. J.	C	Corrected	
20	5.0 / 27	General	Need a brief discussion somewhere in this section discussing the rationale for using the screening levels used (TNRCC RRS-II residential) for this investigation. Why did MK use industrial and DEM use residential?	C	Added text to various sections discussing RRS-I and RRS-II and Texas Specific Background Concentrations.	
21	Table 5.2	Page 28	Provide a separate table or additional columns in Table 5.1 listing the screening levels (TNRCC RRS-II residential and GWP) for each parameter.	C	Corrected - added table.	
22	5.2 / 30	1st ¶ and Table 5.2	Were any of these results listed above screening levels (RRS-II and GWP)? If not, state so.	C	Added text to reflect results of screening levels	
23	5.2 / 30		A discussion on the PCB results needs to be included in this section.	C	Added test	
24	5.2.1 / 30 and 3.1 / 14	General	These two sections are confusing when comparing them to each other. How did MK use screening levels in the 2001 ESI? It appears they used Background Concentrations for the metals and TNRCC RRS-II (industrial) for the other parameters??	C	Added text to both sections explaining what MK used for screening values	
25	5.2.1 / 30	2nd ¶	A discussion on the comparison of the analytical results to MSC for GWP needs to be added.	C	Added test to this section and text to section 6.1 to discuss GWP	
26	Figures 3.1A, 3.2B, and 3.3C	Pages 31 - 33	Section 5.2.1 states these figures give concentrations for both phases of the ESI - are they? It appears only phase II is listed, but the numbers don't quite match table 5.2 probably due to a rounding off of numbers; list all results as the actual lab reported results.	C	Corrected to reflect only ESI Phase II data on figures. Table corrected to match figures.	
27	5.3 / 34	1st ¶	List all the parameters tested for.	C	Added information.	
28	5.3 / 34	last ¶	Also mention other parameters tested for that had no detections.	C	Added information	
29	5.3.1	General	Number subsections (metals, VOC, etc.) instead of simply bolding them.	C	Subsections added.	
30	5.3.1 / 35	3rd ¶/ lines 4 and 5	Vinyl Chloride would make a fifth VOC found in phase I but not found in phase II.	C	Corrected text to reflect.	
31	Table 5.2.1	Page 36	Table 5.2 and the text list toluene also in MW09.	C	Added 0.0028J to MW09 Toluene	
32	6.0	General	Number subsections (soil, groundwater, etc.) instead of simply bolding them.	C	Subsections added.	
33	6.1 / 37	Soil section's last sentence and table	What were the PCB concentrations for the background soils? One background sample had .170ppm; about a dozen surface samples had detections - some below and some above this background sample. More information needs to be given before saying that PCBs in surface soils are above background.	C	Corrected - All background concentrations for PCBs were ND.	
34	6.1 / 37	Soil section - General	How do the site's 4 background samples compare to the Texas Specific Background Concentrations. Also, a small discussion may be needed to address the fact that the 4 background samples were collected within a few hundred feet of the site; are these truly representative of background samples?	C	Added text to reflect background results with the Texas Specific Concentrations.	
35	6.1 / 37	Soil section - General	How the sample results compared to the MSCs RRS-II needs to be discussed. (Both residential and GWP)	C	Added text.	

Comment #	Section/Page	Paragraph/ Line	Comment	C, D, E'	Response	A or D'
36	6.1 / 38	1st ¶ / last line	Mention other parameters where no detections were the result.	C	Corrected	
37	5.0 and 6.0	General	Is there enough data to warrant a discussion concerning specific COPCs for each of the three sites within AMS #7 and/or what past practices at the cooling tower, incinerator, etc. would result in these contaminants being present - lead, zinc, PCBs, TCE, etc. Explain better what is meant by "to establish GWP".	E	Exact activities not previously documented for each area. Adding text would only be speculation.	
38	7.0 / 39	2nd ¶ / line 5	Explain better "greater than 3 feet".	C	Added text to Section 7.	
39	7.0 / 39	2nd ¶ / line 9	Even though closure can now be met under RRS II-Res, future investigations may discover higher concentrations of contaminants that could not meet closure under RRS II-Res but be met under RRS II-Ind. Would it not be wise to reclassify the site, especially if TNRCC would agree?	E	DEMS does not feel that an attempt should be made to classify this site as industrial. It is not up to the TNRCC to agree or disagree. It would have to be accepted to the current landowner. If current landowner agreed this change in land status would have to be filed at the land office thus permanently changing sites	
41	7.0	General	In TNRCC's letter (16 Jan 2001), they mention that "background must be established for both soils and groundwater". How is background for water to be accomplished?	E	This activity would best be performed during the RI phase of investigation.	
42	7.0	General	In TNRCC's letter (16 Jan 2001), they mention that a "septic system should be considered as a possible source of contamination..." Has this been addressed?	C	Yes the septic system should be considered as a possible source but DEMS does not recommend taking action at this time. This is due to the distance from the septic tank to Monitoring Well 08. Monitoring well MW06 is much closer to the septic tank and is unaffected.	

Reviewer Name: Crain, Mike
Discipline Geology
CX Project Review No. 67990
Date: 02/05/2002
Project Location Vernon, TX
Document Name: Draft Final Expanded Site Investigation Report, Phase II, Former Atlas Site 7

Comment # 1: Table 2.5, pg 10 – Please clarify why the Total Depth numbers in this table are so much different that the Total Depth figures given in Table 2.4? It appears that the Total Depth figures in Table 2.5 are actually the depth to water below top of casing.

Concur – Clarified Table 2.5 to reflect last column is depth to groundwater.

Comment # 2: Sec. 4.1.4, 4th parag, 1st sentence – It appears that the first word of the first sentence should be “During” instead of “After”.

Concur - Corrected

Comment # 3: Sec. 4.1.4, 5th parag, pg 25 – What was considered excessive drawdown? From the well sampling records, it appears that MW-07 had 7.49 feet of drawdown (16.65' to water before purging, 24.14' after sampling). That is a large amount of drawdown by low-flow sampling standards. The report should evaluate whether that had any effect on the quality of the data from that well. In addition, the drawdown and purge volumes for that well on the sampling record do not make sense. Based on the purge rate, approximately 2.5 gallons of water was purged prior to sampling. The amount of drawdown recorded after sampling (7.49 ft) represents about 10 gallons of water in the casing and annulus (based on a 10" boring and 30% porosity in the filter pack). The difference in those two volumes appears to be much more than what would have been pumped during the sample collection period. The significance of all this is that it appears that all the water removed from the well came from storage in the casing and filter pack and not from the formation, which raises doubt about the validity of the data from that well. Since there is going to be additional groundwater investigation done at the site, this isn't a major problem that would change the basic decisions that are being made. However, it is something that needs to be taken into consideration when planning the next phase of work. It may be necessary to use different sampling protocol for this well to get reliable results. A good alternative might be to use passive diffusion bag samplers in all the wells to overcome the problems with low recharge rates. They are inexpensive and easy and would probably work well in this situation. The HTRW-CX can provide assistance in their use if needed. Also, the area represented by MW-07 probably shouldn't be assumed to be unaffected by the chlorinated solvent plume until reliable data can be collected that shows that it is, in fact, clean.

Concur – This well did exhibit a significant draw down. The well diameter is 8" and not 10" thus reducing the total amount of water present in the filter pack and well tubing. Total sample required by the laboratory was approximately 10 liters. Regardless DEMS does concur that some of the water sampled must have come from the filter pack. The well was not recharging at a sufficient rate to keep up, even with the low flow sampling. Per the approved Work Plan if the well would have pumped completely down then the alternate sampling technique was bailing with a VOC tip. It is DEMS opinion that sampling with the low flow sampler even with the exhibited draw down was preferable to bailing. DEMS feels that the over all potential effect is reduced by the fact that VOC and SVOC samples were collected first, per the sampling and analysis plan, before the majority of the draw down occurred. Also given the fact that previous sampling events have not detected any of the primary COPCs in this well the potential that any were missed during this sampling event is reduced. DEMS agrees that examination of sampling procedures for future events should be reviewed.

Comment # 4: Table 5.2.1 – A previous Table (5.2) show toluene in MW-09 at 0.0028 mg/l during the Phase II ESI investigation but Table 5.2.1 shows that sample as ND for toluene. Please clarify and correct the table.

Concur – Corrected.

Comment # 5: Sec. 7.0, 1st bullet – Please clarify what is meant by “downgradient” in the next-to-last sentence of the bulleted section. Does it mean topographically lower or downgradient in terms of groundwater flow direction? Since these are shallow soil samples in the vadose zone, the direction of groundwater flow won’t have any effect on the distribution of contaminants in the soil zone being sampled. I recommend just sampling the locations of the three or four most contaminated surface samples in each area.

Concur – The use of the word downgradient is in reference to surface topography. Added text to reflect.

Comment # 6: Sec. 7.0, 2nd bullet – I agree with the recommendation to do additional groundwater sampling at more locations and to investigate the entire thickness of the shallow aquifer. However, there may be more efficient ways to accomplish that than to start by drilling and installing additional monitoring wells. It might be possible to use direct push methods to either collect some groundwater samples or to measure VOC concentrations in-situ. Based on the boring logs from the monitoring wells, the soil may be too hard or contain too much caliche for a direct push rig to penetrate deep enough but a DPT rig with a hammer might be able to do it. A geologist or contractor with more local knowledge might be able to make a recommendation on the feasibility of using direct push. Groundwater samples could either be collected using a groundwater sampling probe, small diameter temporary wells could be installed, or a tool such as the Hydrosparge could be used to measure VOC concentrations in-situ. The low aquifer yield may cause a problem for sample recovery but the sample volumes are very small so that aspect should work o.k. These are all screening tools that could be used to determine where permanent wells need to be located so the number of wells that have to be installed and incorporated into a monitoring program is minimized but the shallow plume is still adequately defined. Without some type of screening step such as this, there is not much to go on to locate monitoring wells and it will likely take more than one additional phase of well installation to define the plume. I would discourage the project team from focusing too much on MW-08 as the “center” of further investigation efforts because the available data doesn’t do much to identify how or where the release may have occurred and some of the current data may not be too reliable (see comment 3 regarding MW-07). I think it is important that you keep a fairly broad view of the site groundwater at this point.

Concur – DEMS is currently working with the USACE on procedures to best identify the location of the TCE contamination prior to selection the locations of the addition monitoring well.

Comment # 7: Sec. 7.0, 4th bullet – I agree that additional sampling of the deep aquifer is needed. However, it will be necessary to install at least two additional wells in the deep aquifer to be able to determine which direction groundwater flows. I recommend doing additional literature research and possibly contacting either the USGS or State geological survey water resources people for information on regional flow patterns in the San Angelos aquifer before locating the wells. One well should be located as close to the silo as practical since the silos themselves have been found to be the source of TCE at some other Atlas sites, presumably due to leaks from the sump at the bottom of the silo.

Concur – DEMS agrees that drilling only one additional well to the deep aquifer will not establish a gradient based solely on wells drilled on site. The primary purpose in drilling only one well, is to follow the recommendations of the TNRCC as stated in their letter dated September 24, 2001. DEMS agrees that research is need in establishing a better understanding on regional flow patterns for this aquifer. DEMS also agrees that the well should be drilled close to the silo. However, DEMS feels it important that the well not be placed within the fill material surrounding the silo. The primary purpose of this well should be the examination of the deep undisturbed aquifer directly down gradient to the silo.

Reviewer Name: Cheryl Groenjes

Discipline: Chemistry

CX Project Review No. 67990

Date: January 15, 2002

Project Location: Fmr. Atlas Missile Site No.7, Vernon, TX

Document Name: Draft Final Report for Site-Wide ESI Phase II

Comment # 1: p.15, 2nd paragraph. Define to what depth the borehole samples were sampled from.

Concur – Added table detailing subsurface sample collection depths.

Comment # 2: p.17, fig.3. Clarify the following items on the figures: Background sample locations, Ground water flow direction (NW?); two boreholes are noted as BH08 – and no BH 07.

Concur – Maps included in the text of the report do not cover a large enough area to identify the locations of the background samples. Additional text has been added stating the location of the background samples can be found on the large scale map in Appendix J. Ground water flow direction arrows has been added to Figure 2. BH numbers have been checked and corrected.

Comment #3: p.21, 4.1.2. Suggest noting depths of the surficial samples within this sampling description.

Concur – Depths have been noted.

Comment #4: p.22, 4.1.3 and p.34, 5.3. Clarify here if water measurements obtained during DEMS 2000 sampling effort confirm the GW flow direction for the shallow aquifer identified in the MK report (NW direction).

Concur - However, text was not added to section 4.1.3 or 5.3 but instead to Section 2.4, which specifically deals with the site hydrology and discusses the relationship between past gradient interpretations and results from the current study. Text was added on page 10 comparing past to current gradient directions.

Comment #5: p.28-29, tbl 5.2.

- a. The values given on the tables differ slightly from those given on site figures: 3.1A, 3.2B, and 3.3C, for the same sample results. Rounding error is not applicable, for the number of significant figures given. Results should agree to avoid confusion or making it appear that there are multiple results.

Concur – Table has been corrected, data presented on figures and table match.

- b. Suggest the 'ND' be expressed as < (lab reporting limit) to clarify the sensitivity achieved.

Concur – Information added to tables.

Comment #6: p.29, 1st paragraph. Identify the grid locations for these samples (C-12, and C-28).

Concur – Added text to identify grid locations with sample ID numbers.

Comment #7: p.29, 2nd paragraph. Correct sample number designations given as 'ss'.

Concur - Corrected

Comment #8: p.34, 5.3.1 Disagree that the metals data show any trends of decreasing between the MK and DEMS sampling efforts. The differences shown here are so slight, they are basically equivalent. Suggest it be stated that data is comparable, therefore very supportive amongst the two sampling efforts.

Concur - Edited text removing reference to decreasing trend.

Comment #9: p. 34, tbl 5.2 (AGAIN?) Suggest the 'ND' be expressed as < (lab reporting limit) to clarify the sensitivity achieved.

Concur - Added information to tables

Comment #10: p.35, 5.3.1-VOCs. Disagree that the data show any trends of increasing between the MK and DEMS sampling efforts. The differences shown here are so slight, they are basically equivalent. Suggest it be stated that the VOC detections found in the MK effort was confirmed the following year with the DEMS sampling/analysis done.

Concur –Remove reference to trends.

Comment #11: p.35, 5.3.1-SVOCs. Correct typo for chemical compound: BIS (2-ethylhexyl)phthalate.

Concur - Corrected

Comment #12: p.36, tbl 5.2.1.

- a. Detections noted within text are identified as 'ND' on the table: VC for MW-9 (MK), and toluene for MW-9 (DEMS).

Concur – Corrected

- b. Add MSC values for cis-1,2-DCE (0.07) and trans-1,2-DCE (0.1).

Concur – Corrected

- c. Typo for BIS (2-ethylhexyl)phthalate.

Concur – Corrected

- d. There is no basis given within App G (data validation report) why the values for TCE, cis-1,2-DCE, trans-1,2-DCE, and toluene should be J-flagged. The detections are large enough that most are above the low level standard (PQL) also. Investigate the rationale behind this 'estimation' qualifier being applied, and summarize it within section 5.1, or delete qualifier from table.

Exception – Page 4 of the validation report under Accuracy reports that for ground water samples MW07, MW09, MW09A, and MW06 the surrogate recovery for D-8 Toluene exceeded the upper recovery limit. Per the EPA rules for data validation of detected volatile organics these samples were J qualified as estimated.

Comment #13: p.37, tbl 6.1. Include PCB values found in background samples that are being used as the basis for determining impact onsite.

Concur – Added line to table listing PCB background results.

Comment #14: p.38, 6.1.

- a. Refer to comment 11 as it pertains to the MSC screening levels are ALL project COPCs.

Concur - Corrected

- b. Several confusing statements are noted within this paragraph that require editing. Also correct the numerous typos.

Concur – Edited text and corrected typos.

Comment #15: p.38, 6.2.

- a. A background set composed of only four samples is extremely limited, and should be qualified as such.

Exception – The number of background samples collected was approved in the work plan as being sufficient for this situation. DEMS agrees this may not be sufficient in other situations.

- b. Suggest emphasizing here that the results presented in figures 3.1A, 3.2B, 3.3C show the extent of surficial contamination has been established and is very limited as shown in previous figures.

Concur – Text has been added to reflect suggestion.

Comment #16: p.39, 7.0, 1st bullet.

- a. Suggest the leachate testing be restricted to metals analysis ONLY and be taken from the grids with higher detections: one for the incinerator (around I6 or I7) and one for the cooling tower areas (around C24 or C13). The hydrophobic nature of PCBs as well as the low levels found do not support the data need to evaluate leachability from precipitation. The lead and zinc concentrations in the UST area are much lower than the other areas and do not support this leachability assessment either.

Concur – Text is being added to reflect suggested test. Also, DEMS is working with the CORP Tulsa District in planning the next sampling event.

- b. The contractor must provide the rationale to support the proposed subsurface sampling.

Concur – Additional text is being added.

- c. Clarify site topography conditions that apply that would require additional surface samples to determine contaminant runoff potential. For the necessity of this should be scrutinized. The levels of lead, zinc, and PCBs and extent of the areas impacted are minor - and the mobility is being assessed from subsurface samples and leachability testing protocols already.

Concur – Much of the AMS site is elevated relative to the surrounding topography. This includes the former locations of the cooling tower, incinerator and UST sites. These are several water runoff areas that have not been examined during previous investigations.

Comment #17: p.39, 7.0, 2nd bullet. The more serious concern is the detections of TCE in the GW. Due to the lack of definitive sources for these solvents, and the limited GW data available, suggest some type of field analytics be considered for use onsite to gather some information to help direct the sampling efforts while minimizing the number of mobilizations needed to understand the N/E of the TCE contamination. The TCE levels identified (140ppb) are sufficient to allow the consideration of several varieties of field techniques for the VOC.

Concur – DEMS is working the CORP in planning the next subsurface sampling/drilling events.

Comment #18: General. Several spelling and grammatical errors were noted during the review that require a technical editor.

Concur – Correcting

Comment #19: Appendix G. Clarify what the recovery limits for the MSD and LCS were for mercury. If the LCS failed, corrective action should have been taken to remedy the issue per method requirements. Clarify why this was not done.

Concur – Corrected Validation report to clarify that rejected mercury data was due to MS/MSD biased low.

Reviewer Name: Walker, Terry L.
Discipline Risk Assessor
CX Project Review No. 67990
Date: 02/05/2002
Project Location Former Atlas Missile Site No. 7, Vernon, TX
Document Name: Draft Final ESI Phase II

Comment # 1: Section 3.1. Please include references to the tables and figures in Section 5 for the results of the previous investigations. Suggest bringing relevant data into this section as several subsections indicate that they report "results."

Concur – Added additional tables to Section 3 for previous investigations and added text to section 5 referencing section three tables.

Comment # 2: Section 5.2.1, last sentence. Please revise this sentence to reflect Comment #2 from the TNRCC.

Concur – Removed last sentence completely and added text to both section 5.2 and 5.2.1 to reflect background sample information and its relationship to the Texas Specific Background concentrations.

Comment # 3: Section 6.1, page 38. On page 4 of Appendix H, the following "GW-res" values are presented: 1,1-DCE, 7.0E-03 mg/L; cis-1,2-DCE, 7.0E-02 mg/L; and trans-1,2-DCE, 1.0E-01 mg/L. This conflicts with the sentence that states non values are available. Please correct.

Concur – Corrected text to reflect screening level concentrations.

Comment # 4: General. There are numerous places with typos (most not identified via spell-check) or improper use of terms. Please carefully proof this document.

Concur – Reviewing and correcting.

Comments on DRAFT FINAL REPORT, EXPANDED SITE INVESTIGATION, PHASE II, FORMER ATLAS MISSILE SITE #7

Reviewer: Carol Wies, CESWT-EC-EF, Tulsa District, Corps of Engineers, HTRW Design Center, Engineering and Construction Division

Respondent: DEERINWATER ENVIRONMENTAL MANAGEMENT SERVICES, INC.

Responses: C=Respondent concurs, D=Respondent does not concur, E=Respondent takes exception
Commentor A=Agrees with response, or D=Does not agree with response.

Comment #	Section/Page	Paragraph/Line	Comment	C,D, or E	Response	A or D
0.25	General	Appendices	The laboratory reports need to be included in an appendices. I realize that it is quite monumental, but they still need to be included.	C	Added an Appendix to report containing all validated data.	
0.5	Table of Contents		List Figures and Tables at the end of the TOC for easy reference.	C	Added to Table of Contents	
1	1.1 / 5	2 ND / 5 th	Refer to the "water" samples as "groundwater". Needs changed in 2 places on this line.	C	Corrected	
2	1.2 / 6	Last line	There is a double period at the end of the sentence.	C	Corrected	
3	2.4 / 9	1 st / 9 th	Is this used for a "public" water supply? What is the definition of "public"? Does the City of Vernon or other community use this? Does referring to it as "public" have regulatory implications, or definitions?	C	Changed text to read "water supply well"	
4	2.4 / 9	2 nd / 4 th	"activates" should be "activities".	C	Corrected	
5	9	Table 2.4	I tried to determine where the elevations listed under the column "filter pack interval" were obtained. The only thing I could locate in previous reports was for MW-6, filter pack was 13 ft bgs, for MW-07, 6 ft. bgs. Please verify that the elevations listed in this table are accurate. In regards to this comment, putting well diagrams from the previous report in an appendices would be extremely helpful. In fact, I had to fax well diagrams to a couple of the reviewers.	C	These numbers were calculated from elevations and depths given in on MKs completion diagrams. Numbers were used to figure volume of water in filter pack. They are not needed for this section of the report so they were removed.	
6	2.4 / 10	2 nd / last	The last sentence states that one monitor well is not sufficient to establish gradient, and this is			

			<p>true, but TNRCs comment 7 to the ESI Phase I mentions that hydrogeologic literature may present local groundwater flow trends. Did DEMS look into this? This may be more of an issue for the next Phase!!</p>	E	<p>Detailed literature was not review for this SOW. It was not needed for this smpling event.</p>	
7	11	Figure ??	<p>Please provide a title such as FIGURE 2, and list the figures in the table of contents,. Also, well designation (i.e. MW-06) needs to be enlarged to be readable. GW contour labels also need to be enlarged. In the title block, the title "CONTOURED POTENTIOMETRIC SURFACE..." needs to be larger, while the USACE and Tulsa District could be smaller. In the title "POTENTIOMETRIC" is spelled incorrectly.</p>	C	<p>Corrections made to maps.</p>	
8	3.1 / 12	1 st / last	<p>"preformed" should be "performed".</p>	C	<p>Corrected</p>	
9	3.1 / 13	2 nd / last	<p>Is "octylthalate" spelled correctly? I think there is an extra Y in this sentence.</p>	C	<p>Word misspelled. Missing a p (octylphthalate)</p>	
10	3.1 / 12	5 th / 1 st	<p>No VOCs were detected in the samples, but...The VOC analysis was determined to be invalid during the data validation, due to bubbles in the water samples. This should be reported as such, due to the VOCs detected in all subsequent sample events.</p>	C	<p>Added text to reflect data validation problems.</p>	
11	3.1 / 10	2 nd / 3 rd	<p>If the phthalate was attributed to sampling gloves, then it should not say "site soils" it should say "soil samples".</p>	C	<p>Corrected</p>	
12	3.1 / 14	Last / 1 st	<p>This sentence is worded awkwardly, i.e. "...from collected soil samples near...", I think it would sound better if it said "... from soil samples collected near..."</p>	C	<p>Corrected</p>	
13	3.1 / 15	Last / 3 rd	<p>When typing ".140", type as "0.140", this is for clarity.</p>	C	<p>Sentence removed.</p>	
14	17	Figure 3 legend	<p>Why are there 2 different symbols for borehole locations. Deep and shallow, please clarify on legend.</p>	C	<p>Corrected on ledgend</p>	
15	18	Figure 3.1	<p>A cross reference to soil sample numbers would be helpful.</p>	C	<p>A cross reference to soil numbers is included in Table 5.1</p>	
16	19	Figure 3.2	<p>See comment #15.</p>	C	<p>A cross reference to soil numbers is included in Table 5.1</p>	

17	20	Figure 3.3	See comment #15.	C	A cross reference to soil numbers is included in Table 5.1	
18	4.1.2 / 21	1 st / 1 st	“represent” should be “represented”.	C	Corrected	
19	4.1.2 / 21	1 st / 5 th	Replace “grab” with “discrete”, meaning they were not composited, if this is the case.	C	Corrected	
20	4.1.3 / 22	1 st / 15 th	“accumulation” should be “accumulated”.	C	Corrected	
21	4.1.4 / 24	3 rd / 8 th	Change “..every two-three minutes...” to “...every two to three...”	C	Corrected	
22	28	Table 5.2	Should be titled 5.1. As there is no previous table in Section 5. But there is another Table 5.2 on page 34.	C	Corrected	
23	28	Table 5.2	Rather than “ND”, the table should show less than detection limit... i.e. <10. Also would like to see the concentrations that exceed the applicable regulatory limits highlighted, or bold.	C	Information added to text.	
24	5.2 / 29	1 st / 1 st	“...other then...” should be “...other than...”	C	Corrected	
25	5.2 / 29	1 st / 4 th	Change “...and .2...” to “...and 0.2...” for clarity.	C	Corrected	
26	5.2 / 29	1 st / last	Change “.5” to “0.5”	C	Corrected	
27	5.2 / 29	FYI	All 7 QA samples were below the RL of 0.0096 mg/kg.	C	Corrected	
28	5.2 / 29	2 nd / last	Change “...AMS072025-032...” to “...AMS072025 through 032...” if this is what is meant, as it is written they look like just a long string of numbers, with not much meaning.	C	Corrected	
29	5.2 / 30	1 st / 1 st	Change “...unusable date...” to “...unusable data...”	C	Corrected	
30	5.2 / 20	1 st / 4 th	Would the non-rejected mercury data be biased low? I would be happy to provide the QA results for mercury, if this would be of value.	C	Corrected	
31	5.2.1 / 30	2 nd / 2 nd	“...elevated level...” should be “...elevated levels...”	C	Corrected	
32	5.2.1 / 30	2 nd / 3 rd	“COCs” should be “COPCs”.	C	Corrected	
33	5.2.1 / 30	2 nd / 3 rd	Rather than going straight to RRS2, it should be state that the RRS 1 was exceeded, therefore the results were compared to RRS2.	C	Text added to reflect.	
34	5.2.1 / 30	Last / last	Is the 10 mg/kg for PCB results? Please add what analyte the 10 mg/kg pertains to.	C	Corrected	
35	5.2.1 / 30	Last	Do groundwater protection standards need to be	C	Text added.	

36	31	Figure 3.1A	discussed? Where are PCB results? Can a line showing the limits be added?	C	Added information.	
37	34	Table 5.2	Rather than ND, the <detection limit # should be used. Also, not all analytical results are shown, therefore the sentence above should explain why there particular results were chosen to be reported. (because the were above regulatory limit? Above reporting limit? Please clarify they these were the only results reported in this table.	C	Information added to tables and text.	
38	36	Table 5.2.1	See comment #34 <DL vs ND and why these results?	C	Added information. Corrected footnote to read N/A – Not Analyzed. A * symbol was added to represent not action level provided.	
39	6.1 / 37	2 nd / 2 nd	“PCP’s” should be “PCBs”?	C	Corrected	
40	6.1 / 38	1 st / 4 th	Toluene is spelled incorrectly. Also the validation report stated that this was biased high. That should probably be mentioned.	C	Added text.	
41	6.2 / 38	1 st / 3 rd	Cooling is spelled incorrectly.	C	Corrected	
42	7.0 / 39	2 nd / 9 th	This sentence states “...greater than 3 d Feet.” What should the depth be? 4 ft? 10 ft? Be more specific.	C	Added text to reflect a depth of 3 feet.	
43	7.0 / 3.9	2 nd	What analysis should be run on the soil samples?	C	Added information.	
44	7.0 / 39	3 rd	What analysis should be run on the groundwater samples? Groundwater can be one word.	C	Added information	
45	7.0 / 40	1 st / 2 nd	After “..well construction details..” add (if available), as private wells may not have the construction details available.	C	Corrected	
46	7.0 / 40		Are there any other parameters that should be checked for like ...natural attenuation parameters, bio-remediation parameters...?	E	These options should be considered when the RI phase of investigation occurs.	
47	7.0 / 40	d)	I wish DEMS would recommend analytes to be tested for.	C	Corrected. Added text to reflect.	

CESWT-EC-EF

17 January 2002

MEMORANDUM FOR CESWT-EC-ER (C. Wies)

SUBJECT: Comments to Draft Final Report for Expanded Site Investigation Phase II at Former Atlas Missile Site No. 7, Vernon, Texas (December 2001)

1. Enclosed are comments generated from the review of the subject document listed above.
2. For additional assistance or information, please contact me at extension 7442.

Encl

GREG WILLIAMS
Sr. Chemist, Army/FUDS Section

CF:
CESWT-EC-E
CESWT-EC-EF

Comments on Draft Final Report for Expanded Site Investigation Phase II
At Former Atlas Missile Site No. 7, Vernon, Texas (December 2001)

Reviewer: Greg Williams CESWT-EC-EF
Tulsa District, U.S. Army Corps of Engineers; HTRW Design Center

Page: 1

Respondent:

1. Respondent concurs (C), Does not Concur (D), or takes Exception (E).
2. Commentator Agrees (A) with response or Does not Agree (D) with response.

Comment #	Section/Page	Paragraph/Line	Comment	C, D, or E ¹	Response	A or D ²
1	Sect. 3/p. 14	Pgh. 6/ln. 1	Reword sentence as follows: "Polychlorinated biphenyls (PCBs) were also detected in soil samples collected from areas near the incinerator, cooling tower, and USTs locations."	C	Corrected	
2	Sect. 5.1/pg. 27	Pgh. 1/ln. 9 - 10	Reword/clarify sentence ("The data evaluated is adequate to evaluate ...").			
3	Sect. 5/ Tables	General	List less than Minimum Detection Level value (use a numerical value) in table instead of ND (use < MDL value or < IDL value, when appropriate).	C	Info: mation added to tables.	
4	Sect. 5.2/p. 28 - 29	Table 5.1	See comment # 3. Also, label table as Table 5.1, as designated on bottom of p. 27.	C	Added information to tables. Added label.	
5	Sect. 5.3/p. 34	Table 5.2	See comment # 3.	C	Added information to Tables.	
6	Sect. 5.3.1/p. 36	Table 5.2.1	See comment # 3.	C	Added information to Tables.	
7	Appendix G/	General	Discuss how TA-TN's control limits and method control limits compare or relate to each other and compliance issues (where appropriate throughout the document).	C	Added text to Data Validation Report	

Comment #	Section/Page	Paragraph/Line	Comment	C,D, or E ¹	Response	A or D ² -
8	Appendix G	General	Use "data were" instead of "data was" throughout the document (data are plural).	C	Corrected, added text.	
9	App. G 3.1/p.4	Pgh.4/ln.7	Replace "was" with "were" in last sentence.	C	Corrected, added text.	
10	App. G 3.1/p.5	Pgh.4/ln.3 – 5	The definition for the "J code" in this sentence is not consistent with "J qualifier" definition on p. 2 of the report. Explain how to distinguish its use and applicability when reviewing the data.	C	Corrected, added text.	
11	App. G 3.2/p.6	Pgh.2/ln.4	The use of the "J code" in this sentence is not consistent with the use of "J code" on p.5. Provide a means to distinguish them when reviewing the data.	C	Corrected, added text.	
12	App. G 3.2/p.6	Pgh.3/ln.4	See comment # 11.	C	Corrected, added text.	
13	App. G 3.2/p.6	Pgh.7/ln.2	See comment # 11.	C	Corrected, added text.	
14	App. G 3.2/p.6	Accuracy	See comment # 7. Discuss how TA-TN's lower control limit, historical control limit, control limit, etc., compare with the method limits and compliance issues.	C	Corrected, added text.	
15	App. G 3.2/p.7	Precision	See comment # 14.	C	Corrected, added text.	
16	App. G 3.3/ p.7 & 8	Accuracy/Precision	See comment # 14.	C	Corrected, added text.	
17	App. G 3.4/p.8	Accuracy/Precision	See comment # 14.	C	Corrected, added text.	
18	App. G 3.5/p.9	Accuracy/Precision	See comment # 14.	C	Corrected, added text.	
19	App. G 3.6/p.10	Accuracy/Precision	See comment # 14.	C	Corrected, added text.	
20	App. G 3.7/p.10	Accuracy/Precision	See comment # 14.	C	Corrected, added text.	
	App. G	Accuracy/Precision	See comment # 14.	C	Corrected, added text.	

Comment #	Section/Page	Paragraph/Line	Comment	C, D, or E ¹	Response	A or D ² -
21	4.1/p.11 & 12	n				
22	App. G 4.2/p.13	Accuracy/Precision	See comment # 14.	C	Corrected, added text.	
23	App. G	Table 4 & 5	See comments # 10 & 11.	C	Corrected, added text.	